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ADDRESS

OF

H. WHARTON AMERLING.

UPON

The Formation of the American Society for
the Prevention of Adulteration of
Food, Drugs, &c.,

AT

PHILADELPHIA, PA.



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H. WHARTON AMERLING.

PHILADELPHIA, FEBRUARY, 1885.



INTRODUCTORY.

In calling your attention to the subject of Adulteration, allow me to state how my attention and sympathy were first interested:

Some ten years ago, while attending school near Chicago, Ill., my professor, who was a physician and chemist, frequently adverted upon the enormous adulteration of materials he had subjected to analysis. Food and liquors were not alone subjected to adulteration, but even drugs and medicines were, upon chemical test and investigation, found to be impregnated with foreign substances, many of which were deadly poisons. In fact, we found that the common staples of life were effected in the same manner. I was seriously impressed with the question, "What terrible injury adulteration must cause, and what affections it must bring to our present race, such as stomach, liver, kidney and other diseases, and how deplorably more injurious will it effect our posterity. Then I felt it a duty I owed to justice and humanity to investigate the crime, and expose and prevent it if possible. I considered it a sin, and an endorsement of adulteration, to stand idly by and not oppose it, the destruction of our race.

In following up the subject, I frequently visited Chicago and other cities. I found that firms not only adulterated lard, but that they, for gain, made lard from hogs affected with disease and dead from cholera. The new forms of speculation—future delivery, &c.—were found to encourage adulteration very largely, as was observed in the case of a firm in Chicago, which had agreed to deliver a large amount of lard at a future date. When the date came the market price had greatly advanced. To save great loss, perhaps bankruptcy, they adulterated the lard delivered. Thus adulteration is resorted to by many firms inclined to be honest; they do it to save loss. Other firms, inclined to be dishonest, resort to it for gain alone. Both are alike guilty, but the latter character has no horizon with which it can be bound in the space of infamy.

Since my first study of the subject, I have almost constantly employed my time, limited means and ability, obtaining information

tending to the suppression and prevention of adulteration. I am unable to fight the good fight alone. They who adulterate for gain merely form a strong opposition, made powerful by the direct and indirect use of wealth at State and National capitals. But be the opposition never so potent, I am ready, with the assistance of all honest people and the help of God, to labor as long as I live for the suppression and prevention of adulteration. It will be necessary for the Society *to secure all effective legislation, and securing it, see that it is enforced.* It will be necessary for it to extend its work into all the States, starting at the largest commercial centre of distribution first. Detectives and chemists must be employed, and expenses incurred in prosecutions. I would gladly furnish all the means essential, but I am unable. All who are blessed with the ability to contribute to the support and success of the Society should extend aid—all should, because the matter interests all. It is one of self-defence, self-protection, and we must conquer.

In the following appendix I can give you but a limited portion of the material collected. In connection with my address, I have the extreme pleasure of giving you extracts from a speech on "Food and Drug Adulteration," delivered by a most generous and estimable gentleman, the Hon. Wharton J. Green, in the 48th session of Congress.

H. WHARTON AMERLING.

ADDRESS.

"Love of money is the root of all evil," says the Testament. The new version says it is a root of evil. I like the reading of the old version. I think it means that the love of money causes some people to do all the evil they commit, leaving the balance uninfluenced by its power. America's great greed is shamefully increasing, commercially and politically. It is invariably adverted upon lately by visiting foreigners. Herbert Spencer, at a banquet in New York, warned the commercial men of the awful fate awaiting the feverish, racing money accumulator. It would not be of much concern to the general people if the increasing love of money injured the greedy only, but as the injury becomes more general with the increasing cupidity, extending to every home affliction and death to innocent people, we must rebel.

From whence comes this general injury, this more than curse to man? It comes from that love of money that poisons with adulteration man's meat and drink, yea even his medicine. I have not time to speak of the manner in which great monopolies, speculating, gambling, panics, political wrongs and wars result from the love of money. As pernicious as these vices may be, yet there is none of them so destructive as adulteration. In the primitive times man was differently situated than in civil government. He must now labor for the medium of exchange to sustain life. And as he earns his bread by his industry at one or more divisions of labor instead of producing it originally, then ought the bread to sustain life, not destroy it. If by honest means he becomes rich no communism or pooling should make the sluggard the recipient of the rewards of industry. The poor who labor so faithfully in the torrid heat of summer's sun, or out in the frigid blast of winter, have it hard indeed to obtain food. Would that they were furnished with that food God provided for human nature,—bread as pure as the standing grain, undulating in the zephyrs of the valley; drink as pure as the crystal rill, that breaks from its mother of ice in the mountain glade.

Two virtues I esteem—industry and charity. The one gives us wealth, the other happiness. No man is too rich to be without them. No matter how wealthy the man, he should be at work, using his industry to accumulate more means to relieve the too abundant misery of earth, and place himself nearer heaven. Would that I were able to control the means lately wasted by several opulent Americans in social dissipation. I would not rest till I had organized a society to secure the enactment of legislation to suppress adulteration.

INCREASE OF THE EVIL.

There has been adulteration for ages. It was born of the same parentage as robbery, perjury, arson and murder. It has grown to enormity because the law has not dealt with it as with other crimes. The rapid progress of chemistry has attained most grateful accomplishments, but as if to counteract these blessings a Siva arises to subvert the progress to man's degradation and destruction. The leprous hand of adulteration is using it to fill our blood with the poison of disease and death. As wool is mixed with silk, and cotton with wool, so are terra alba and plaster paris with flour. Glucose is mixed with sugar and syrup and made into candy. A boy died lately in Illinois from eating candy of this kind.

Walnut and butternut hulls are ground and mixed with a little real spice. Some precious knaves refused lately to use even any spice. They merely add a little extract to give the flavors. Upon analysis made recently in New York these facts were obtained: To mustard is added terra alba, flour, sulphur and a color as poisonous as paris green. A vinegar is made from poison acids. Oleomargarine, deodorized soap fat, is represented to be cream butter. Red lead is put into red pepper to increase the weight, and soapstone into flour. Glucose sugar is used to make maple sugar in Detroit. It is sold as Vermont sugar, when in fact it is made in a damp, dirty cellar, without an ounce of maple sugar. Of late lard in general is adulterated, and diseased hogs have been made into lard long after they had died from disease. Near a large city in the West I once saw hogs dead from disease piled up at country railroad stations like wood. They were to be manufactured into lard oil. The truth of the matter is, they were used to make lard for speculative firms. Wines are produced by adding to the original large amounts of water, spirits, acids and dye stuffs to color. Beer and ale are made from damaged grain, feed, meals, rice, glucose, anything and everything that will ferment except barley. Also Peruvian bark, quassa, and everything and anything except hops. To this fine mess is added *coccus indicus*, the baneful poison intoxicant, as if the chief end of brewing was the production of an intoxicant rather than a food.

EFFECT OF IMPURE LIQUIDS.

Pure wine and beer strengthen the weak and restore the sick to health, while the impure weakens the strong, destroys health and shortens life. Pure alcoholic liquors, used medicinally, effect much good, but daily the many hands of the unscrupulous pour into them the evils of adulteration, until the average liquors are filled with the abomination of destitution, physical and mental decay and death.

But the end of the nefarious business is not yet. It extends where mercy on bended knee pleads in tears it may not be. Drugs and medicines must be exempt from adulteration. They are not. Physicians' prescriptions were filled in Philadelphia by some druggists with inferior medicines, in order to make money. Such general adulteration, and especially the latter, is more infamous than all the assassinations of history. He who with the bloody black hand of adulteration quickens the pulse, parches the lip, blinds the eye, paralyzes the hand, foot and tongue, at length in death, is a fiend more

merciless than Caligula, Nero, or the slayer of the innocents. The infamy of Satan is virtue compared to such perfidy. The study, skill and sleepless attention of the learned and talented physician is of no avail when the good effect of his prescriptions is thwarted by the adulterator. Here his best endeavors are as useless as the study, logic and eloquence of the most able lawyer in behalf of justice before a bribed jury or an unfair and prejudiced judge. Men may denounce lawyers, and justly in many cases, but I know of none of our profession who have abandoned themselves to practicing public assassination for money.

By adulteration man is made sick, and by it he is prevented a recovery and most foully murdered. Why, thus it is that paupers are made plenty, criminals many, lunatics numerous, and Americans known as a nation of invalids. Men are losing their mental powers, and with them their property and honor. Adulterations more than intemperance dement, delude and madden to fraud, violence and murder. Progeny inherits mental taints, and possesses an anomalous desire to do violence to others' property and person; to burn houses and wreck trains. More room for the insane is the general demand. Already \$50,000,000 have been invested in asylums, while the cure of the insane costs annually \$15,000,000. From 1870 to 1880 there was a gain of 26 per cent. of the total population, while the insane population increased over 100 per cent.

THE POOR WORST AFFLICTED.

People in good circumstances do not suffer a tithe as much as the poor in the cities. These poor buy a few cents' worth of provisions only at a time. Yet insanity is general and nervous disorders are growing to make it more general. Chloral, morphine, etc., are demanded by the victims of commercial fraud, and insanity or death is the end. The rapidly increasing use of these deadly drugs is frightful, and will be more so if supineness of legislation allows the insidious corruption of our food to continue. It will not be long till the insane will have so increased that the weak civilization remaining will not be able to confine them to asylums. Then the barbarians of a degenerated civilization will over-run America and the sane will seek protection in their castles of defence.

Is it not time to save this nation from a curse worse than war? Men offer their lives in battle for their kindred and country. Face to face armies meet and victory ends the strife. Not so in the war of extermination by adulteration. The unseen enemy wages worse than civil war. Every home is entered; the dear mothers, wives and children we openly battled to protect are slain by an enemy most foul. No sane man, with a heart to pity the unfortunate and afflicted, can adulterate, if he considers the sad effects of his act. The victims are unknown to him. Perhaps some of his own flesh and blood may by marriage and intermarriages in the future be caused to suffer for generations. And when death, the too sad end, comes, let no man say it is God's will. It is more than blasphemy to say so. The Lord in His justice and wisdom made all things perfect. The eternity of space, the myriad planetary and solar systems, and all things organic and inorganic in or on them, He made perfect, and to continue so as

long as there was no violation of the laws ordained for their creation and government. By these laws man as well as inorganic matter is governed.

God visits no man with either poverty or wealth, affliction or death. Man, having free agency and intelligence of the laws, moral and physical, makes his own and his descendants' condition. Behold the stream with its water so pure and its brink so green, as it wanders through forests and meadow, and woodland scene. Near by is the mill at the village side in the valley so lonely, peaceful and calm. This is God's inanimate picture, as perfect and unchanged as when He created it. With this creation God made man in symmetry of proportion, strong and vigorous; in beauty of loveliness, graceful and grand. There was so much to inspire to adoration in the perfection of this, God's animate picture, that the ancients associated it with the supernatural.

From 'snowy marble they represented the perfection of the human form and made it divinity. And of this divinity itself could feel no less than proud.

Behold the perfect man as God created him and as represented in the statues of antiquity, and see how the animate picture has changed; how much of vigor, power, beauty, and loveliness, we have lost and are losing every day. The time is not distant till the last trace of loveliness, beauty and vigor of human creation will have become extinct, if adulteration is not early suppressed. Suppress it not, and the healthful, radiant, rosy freshness of childhood is gone, and there will be then indeed only a dream of fair women. Then God's animate picture will have not only changed, but faded to obliteration.

Oh, that this too sad fate may never be! I know it cannot be, if legislation interposes to make a different destiny. Under the immutable laws governing the Universe, men and nations make their own destiny, and fate is only what we will it.

This is so beautifully and truly stated in the lines of Aldrich, that I cannot refrain from repeating them:

Three roses wan as moonlight, and weighed down,
Each with its loveliness, as with a crown;
Drooped in a florist's window in a town.
The first a lover bought, and it lay at rest,
Like snow on snow, that night on beauty's breast.
The second rose, as virginal and fair,
Shrunk in the tangles of a harlot's hair.
The third, a widow with new grief made wild,
Shut in the icy palm of her dead child.

LACK OF LEGISLATION.

In reference to legislation I may say that for many years there have been no acts passed in the interest of public good or general welfare.

The effect of most legislation since the days of Lincoln has been mercenary, in the interest of individuals and corporations; to take from the people, not to give to them; to unarm, not defend; to injure, not protect. The unbroken ranks, the ceaseless tread of an army of jobbing knaves at every session have not combined to beg and bribe in behalf of the people.

Although society was formed for individual protection of property, liberty and life, and government to maintain and perpetuate that protection, yet to-day there is no protection. Property and liberty are in a form guarded, while life, which is more than property or liberty, is left at the mercy of unpunished assassination.

We have some law in most every state to punish adulteration of liquors. England had such laws, too, but they failed to secure protection until they were made to cover every species of adulteration, and to provide officers to detect and apprehend the crime. To succeed we must provide the severest possible punishment, and a number of inspectors under the supervision of a chemist. The inspectors' duty should be to visit at irregular periods all the wholesale dealers' and producers' establishments, and secure portions of food, liquors, drugs and medicines to be analyzed. If pure, they should be so marked before they could be sold from the first dealer, producer, or importer. If impure, they should be publicly destroyed, and if any such first dealer or any other dealer falsely marks or subsequently adulterates any of the articles of food, etc., marked pure, he should forfeit his license and undergo imprisonment commensurate with the amount of injury done, or likely to be done, even unto death.

A police is on duty day and night to prevent and apprehend the crimes done to property and persons. Why is it not as necessary to have officers on duty to prevent and apprehend another kind of crime, which by no disturbance of the peace is quietly, secretly and at all times doing more injury to the person than all the other crimes?

NECESSITY FOR OFFICERS.

No law will be able to suppress adulteration that does not provide officers to detect and apprehend it. Private individuals have not the authority by law to demand of dealers and producers admission to their establishments or power to take articles to inspect, or the time and money to analyze them. The purpose of government being protection, it is not the duty of private individuals to provide the expense of such protection. A citizen may feel that he has been injured by adulteration, but as the expense of analyzation is considerable, amounting in most cases to from \$100 to \$300, he is unable to prove his injury, and thus unabated murder continues.

Under the law preventing adulteration the English are living longer and better than we. Dr. Foster stated before the English medical society lately, that a man's natural life-time is one hundred years, and that all could live that long if they met with no accident and lived properly. From Dr. Farr's observation of the march through life of 1,000,000 children, he found that the English were living longer than formerly, as there had been a gain of $2\frac{1}{2}$ years in the average life of the people. He claims that the largest amount of sickness is due to insufficient and impure food, and that the first essential to life is pure food. Further, that hereditary taints may be abolished by proper living, and the body left at death stronger and better than when it was taken up at birth, because the old blood cells, the fibers and epithelial scales being cast off, may be replaced with others better, and eventually untainted.

While the English gain, we lose. The very attempts of nature to restore our afflicted people are thwarted by adulteration. I am not surprised that the London *World* says the American girl is an attraction because her want of body and brain culture and refinement makes her a curiosity in their society; that the feverish, pushing, barbarous struggling of the men of America reacts on their sisters, and makes them the most showy, restless and impatient women in the world; that repose and dignity are alien to them, their ideal being smartness, and that physically they were inferior to the English girl. America seemed destined to evolve an inferior type without the heart and brain of the English sister, as seen in the robust literature of Scott and Fielding. A writer, speaking of the English and French, says that the English girl is favored with a well developed physical beauty; that they could romp and walk ten or fifteen miles in the forenoon and play tennis all the afternoon.

If our girls walk fifteen blocks they are tired for fifteen days. Not over sixty years ago we were as strong as the English, for Lord Gower even expressed that we were in many respects superior. If he were living he could not say the same to-day.

ANOTHER FIELD FOR BERGH.

The worthy, most estimable Henry Bergh has prevented much cruelty to beast; now let him prevent it to man. Let the New Yorkers who spend \$100,000 in one evening in social feast and feast of vanity have some mercy, if not love, for humanity. Let them cease this selfish waste and lend some assistance to destroy our and posterity's degeneration.

Personally I am poor now, but some day I shall inherit nearly \$100,000. I would give it all to destroy the curse of adulteration. All my labor and limited ability I will give; yea, my life-time I offer to this purpose. Being still young I hope I may live many years, or long enough to attend the execution of the public assassination.

When England, an imperial government, so justly protects her people, mere subjects of a sovereign, how much more essential is it that ours be protected. England knows that upon the health of the subjects depends the army, and upon the army depends the government.

We have a nearer, dearer and better government than imperialism, where there is neither slave or lord, and no man is a subject, and every citizen is a sovereign; a government founded by the conquest of liberty upon a domain where imperialism cannot live, and democracy was born, I hope, never to die.

If then England desires to and does protect its government by protecting its subjects, should our desire be less? It should be greater. Let us realize that we can never perpetuate our government, as long as the very nourishment of the babe is poisoned at its mother's breast.

EXTRACTS FROM

SPEECH OF HON. J. WHARTON GREEN,

Delivered in Forty-eighth Congress.

If the charge be established against manufacturer or compounder of killing off innocent people by thousands and tens of thousands by slow process and homeopathic doses, wherein has he the advantage over his brother scoundrel, who prefers active agencies and larger measures to remove some hated rival or ambitious foe, as did the Borgias and others of the vile accursed class, through the medium of Belladonna, of arsenic, or of ratsbane?

For one, I hold the last less culpable. They killed by units, these by thousands. Better, a thousand times better, the allopathic dose administered by a Madame Brinvilliers, to the graduated modicums of the abominable drugs which enter into our daily food, and protract the life in misery of the victims by thousands, as said, through one or two or twenty years, as may be.

Surely, Mr. Speaker, there must be some adequate remedy for this crying evil, this monstrous crime. That remedy, I repeat it, is ours to devise. If we are encountered by constitutional objection, then give us an amendment to that India-rubber document that will compass the aim designed. The constitution of the land ought to be able to protect the physical constitutions of its citizens against the machinations of demons disguised as men. State enactments are utterly inadequate to suppress the evil. We have laws, and stringent ones they are, imposing suitable and adequate penalties upon counterfeiters of the coin and currency of the country. Are there any against counterfeiting articles of diet, drink, and medicine? If so, sir, the brazen effrontery with which they are disregarded proves their total inadequacy. In Heaven's name, why are not the two at least of parity?

Can any hold that the last is crime of minor grade? Who will say that he who stamps and passes off little bits of baser metal than the standard bullion to put into *your pockets* is guilty of greater wrong than he who prepares and sells you base and counterfeit compounds, not to say deadly, to put into *your stomach*? Possibly the reason for imposing penalties in the one case and neglect to do so in the other is that our ancestors could not realize that human cupidity could prompt such depravity as trifling with the health, well-being, and very existence of myriads of their fellow-men.

Just as the Romans had no special punishment for parricide. Just as our old English progenitors had no special penalty for that most cowardly and repulsive of all known crimes, the taking of life by

deadly drugs, until in a very late reign (one of the last Henrys, I believe), the crime was proven and special penalty thenceforth imposed to "fit that vile Italian crime which hath lately entered into these realms." The culprit was to be boiled to death in oil. Meet punishment that and fitting for all the vile, accursed class, whether the agency employed be the famous, or, rather, infamous, "Apua Tofana," or "Elixir of St. Nicholas," which could be gauged to do its hellish work in a day, a week, a month, or a year, or the slower poisons of our day, which enter into our daily food and permits its millions of victims to live out nearly their allotted span, but with impaired constitutions, both mental and physical, for years before their end.

Mr. Speaker, were the adulterated substance sold entirely harmless but of inferior merit or virtue to that which it purports to be, it would still be a fraud, and should as such be punished. But when baleful and deadly ingredients enter into the composition, capital felony should be its status in the list of crimes, and the oil cauldron the bath in which the vile miscreant, be he manufacturer, manipulator, or expert, should be required to lave his sordid soul.

Mr. Speaker, I had occasion some two years ago to lay in a supply of commissary stores for those in my employ, and told my grocer in a neighboring city I desired a pure article of syrup. His reply was: "You can not get it here, nor do I believe you can in or out of the city;" and so with numbers of other articles. When the item of sugar on my list was reached he was equally honest and candid. "We can sell you a pure article of sugar," quoth he, "provided you take the granulated. Nothing else will we guarantee." "And why the granulated?" The reply was pert and to the point: "Because refiners and doctorers have not yet been able to counterfeit it to paying profit."

Probably every gentleman on this floor knows what steatite or soap-stone is. If not, I will state that it is a soft, calcareous, easily cut rock, but probably surpassing any other in weight and density. Presumptively therefore not the most digestible article of diet known.

Now, sir, what would be your inference, if told by the proprietor of one of these saponaceous quarries, as I have been, that he finds a ready sale for all the "soapstone flour" that he can grind? And who are your customers? Chiefly commercial millers and sugar refiners.

Mine, sir, was that the information tallied with what I had previously seen in print, that the vile stuff enters largely into our tea, coffee, toddy, sweetmeats, and daily bread. Sir, it behooves those who hear to ponder well. Steatite may be an excellent lining for stoves. I doubt its coequal fitness for stomachs. "Hot biscuit for breakfast," "light bread for supper," was wont to gladden my heart in younger days, for in the house of an honored uncle who raised me "corn bread" as a rule was the staple staff of life.

Think you that biscuit for breakfast or light bread for supper (Heaven save the mark, how could it have been made light?) would have been as palatable as ash-cake or johnny if one of the descendants of old Job's comforters had kindly volunteered the information that they were to be made out of nice white soapstone flour instead of the glorious golden grain grown on the broad acres around me?

I opine that if the restrictions on distillation, including tax on the legitimate article and pains and penalties on the illicit or "moon-

shine," were removed altogether, and these makers of a pure article of whisky and brandy left as free as their fathers were in that regard, and the same punishments doubled or quadrupled meted out to the compounders of the poisonous stuffs engendered by the tricks of chemistry, the cause of morality and the sanitary cause, not to say the cause of liberty and sobriety, would be materially subserved thereby.

Let me give you an instance in proof. When a younger man than I am to-day by many years I passed some weeks in Bonnie Scotland. I had heard before getting there that the breechless sons of the Lothians were not averse to a wee drop of "rock and rye," and not over-particular if the rock was left out, and faith, Mr. Speaker, observations convinced me that they had not been slandered. Why, sir, one-half of the average potations, judging from what I saw, and assuming that it was a national average, would in this country, in a single year, more than double the victims of drink mania and cram to repletion our inebriate asylums. And yet no such dire effect was visible there; man a potu, like spinal meningitis, was literally unknown.

Expressing my surprise to a friend in Edinburgh at the marked difference in capacity of absorption between the denizens of the two countries, I asked the cause. Sir, I was not and am not satisfied with the explanation he vouchsafed. It was, as recollects, that the volume of phroligneous acid evolved from peat smoke had a purifying effect upon the liquid distilled. That may be science, but it is not sense. My explanation is simply pure whisky. The Highlandmen of Scotland in that day, like the highlandmen of North Carolina in ours, were not up to the tricks and devices of devilish science. They made an honest article of whisky, drank it, and lived out their allotted span a brave, hardy, simple race on their bleak free mountain sides.

Like cause would produce like effect in our own midst. Now, Mr. Speaker, coming back to our mutton, compel the nefarious manufacturer or compounder to drink his own vile decoctions with a slight additional infusion or fusil oil, to be administered by the public executioner, and bury his accursed secret with him, and, mark the prediction, delirium tremens and other resulting effects, such as wife-beating and kindred brutality, misery, and murder, will very materially diminish as the quality improves.

What is true of distilled spirits is none the less so of beer and other malt liquors, wines, and cordials; for as enormous as the profits are in both cases, they are not sufficient to satisfy these rapacious ghouls. The beer-maker is as little content with those resulting from accredited hops as the basis as is the whisky or brandy-maker with his from honest rye, corn, wheat, or fruits.

It is safe to assume, Mr. Speaker, that were the question put to the leading medical men of the country a large majority of them would decide that the alarming increase of late years in nervous, cerebral, and kidney diseases is directly traceable to the cause assigned, namely, adulterated drinks of all kinds, including vinous, malt, and distilled. Is not insanity fearfully on the increase, as evidenced by the overcrowded bedlambs of the land and the mania for self-destruction? Then seek for reason why, and find it, too, no less in poisoned beverage than in the growing passion for wild speculation.

In view of the statements made and facts alleged, all of which are susceptible of proof, I ask, and ask with due deliberation, might not the philanthropist better subserve the cause of humanity by directing the batteries of his denunciation from alcoholic drinks *per se* to the adulteration of them ; by advocating purity instead of prohibition ?

But, sir, the field is too extensive, proofs too voluminous, if proof be needed where criminality stands confessed, to permit my going into further detail under this head of my subject. But I were derelict to my subject, my constituents, and myself did I close without some allusion to like vicious practice in the make-up of medicine ; for, sir, human depravity, with utter disregard of human life, has even dared invade the sacred precincts of the pharmacopœia, to lift the tops of the mystic jars on shelves arranged, and to infuse base substance in their portentous contents, where oft the difference of a feather's weight may involve the mortal life of immortal men. Medical skill is impotent to act and powerless to grapple with fell disease in critical juncture, because by base admixture with medicinals it is at loss to know what measure to prescribe to compass the end desired.

I broadly, boldly make the charge and challenge the refutal of investigation. A distinguished physician told me some years since, in a neighboring city, that probably more deaths resulted directly and indirectly from that source than would from disease if left to itself ; and that he made it an inflexible rule never to prescribe medicines unless he was well acquainted with the commercial and moral character of the druggist who was to supply them. If such is the state of the case in a great city, what chance is there of obtaining pure drugs in village shops and country stores ?

Mr. Speaker, this branch of my subject is certainly one demanding most instant and efficacious remedy at our hands. Of all men in the world the chemist and wholesale druggist has least occasion and excuse for tampering with his wares. His profits are enormous when confined to legitimate channels.

I do not propose, Mr. Speaker, to take down and look into each separate jar on the shelves of the constitution amender ; am not sufficiently deep in science for that ; but I do intend to look into one—and judge the rest by inference.

I see before me "sulphate of quinia." That means in our vernacular "quinine," qui-nine, or quin-in, as folks prefer to call it. "Jesuit's bark" is the staple from which it is compounded, and the introduction of which to the European world entitles the Society of Loyola to the everlasting gratitude of a sinful and suffering world. It is to-day, in the world's conception, almost as indispensable an article to man's welfare as bread or meat or drink. I have heard that out on the raggering Wabash or in the Arkansas bottom, where the musical mosquito delighteth to hum and to make his home, where the ague shaketh the sons of men, they would willingly swap, pound for ounce, blood for Jesuit's bark in its etherealized state, known as quinine.

Now, sir, a short time back, a Democratic House of Representatives, recognized the indispensable necessity of this light but costly white powder, erased it from the list of the thousand or two other protected articles and put it on the free-list, and the whole country arose and

called that congress blessed. Quinine fell from five or six dollars an ounce to \$1.50 nominally. But, sir, I opine the reduction in price is more fictitious than real. The quinine of to-day is not as a rule the quinine of former times. Then it was bitter—deucedly bitter—and there was no horrid apprehension of morphia or other deadly drug left in the mind as afterclap. To-day it is far different, for although not exactly a confection or sweetmeat, it has nevertheless so far laid aside its acerbity as to suggest the thought, *a la Mrs. Toodles*, what a convenient thing a stomach pump is to have in the house when one is taking white powders.

Now, sir, I ask why the change in its taste, which is so perceptible as to be the subject of general remark? Is it that the bark of the cinchona tree is losing its natural properties, or is it that less expensive barks and other substances are worked in with it to increase bulk and weight, and thus make up for the falling off in price?

It would be an interesting investigation if the question were submitted to a special committee of medical experts. The cinchona is doubtless to-day what it was when Pizarro's followers first found it, and so is red oak or willow.

Almost every leading government in Europe has stringent laws against adulteration. Of these England has perhaps the most perfect and complete system, and yet it is only of yesterday's growth. Less than thirty years ago Dr. John Postgate, a country physician, seeing the abuses perpetrated by adulterators of every class, took the matter in hand and after years of persistent effort, beginning with only one supporter in parliament, Mr. Scholefield, and with all the large manufacturers and dealers in Great Britain hounding and denouncing him, succeeded at last in having his ideas adopted as embodied in the adulteration acts of the last decade.

As a public benefactor he will rank in the history of his country as the peer of Jenner, Stevenson, Arkwright, and Davy; for food adulteration is virtually wiped out so far as it affects English palates and constitutions. But what compounders are forbidden to sell at home they can readily market abroad. For is it not obvious that as long as they are debarred a home market by repressive edicts they will naturally export their base counterfeits to our own more tolerant shores? Eliminate the foreign supply of poisoned and poisonous foods, and forbid the sale of "home manufactured" stuffs of kindred class in the District of Columbia and wherever else the strong arm of the Federal Government will reach, and a most important step in the work of their eradication and extermination will have been accomplished.

The following manner of making liquors, etc., was testified to in an action in Illinois, before H. B. Amerling, associate justice, some years ago.

1. OLD FRENCH BRANDY.—To forty gallons proof spirits add one half ounce acetic ether and four ounces tincture of red pepper and eight ounces tincture of saffron and sugar. Coloring to suit.

2. NEW FRENCH BRANDY.—To thirty gallons of whisky add one gallon of alcohol, four ounces spirits of nitre, one ounce gum kino, one dram of oil of cloves, one dram of Russian castor, two quarts of vinegar. Coloring to suit.

3. CHERRY BRANDY.—To thirty gallons of spirits add one peck of dried cherries, ground or mashed, let stand three weeks, take them out press them and add ten pounds of loaf sugar.

4. HOLLAND GIN.—Turpentine one quart, oil of juniper one ounce, alcohol, one pint of whisky, sixteen gallons. Mix.

5. JAMAICA RUM.—Whisky twenty-nine gallons, alcohol one gallon, liquorice root four ounces, spirits nitre three ounces, oil of anise seed two drams catechu one ounce, oriss root two ounces. Coloring to suit.

6. TO IMPROVE WHISKEY.—Take eight ounces each of Swiss tea, allspice, logwood and carraway seeds, two ounces of cinnamon and one gallon of whisky. Use one pint to a barrel.

7. TO PUT A BEAD ON WHISKY.—Put half a pint of each of sweet oil and vitrol to a barrel.

8. WINES! WINES! NO. 1 NO. I.—Twenty-nine gallons sweet cider, add one gallon brandy, three gallons of wine, one pound of lime, one pint of sweet oil, two ounces allspice, one ounce each of pearlash ginger and mustard seed and five pouuds of sugar.

9. NO. 3. MADEIRA! NO. 3.—For maderia add three ounces of tartaric acid to No. 1.

10. NO. 4. PORT! NO. 4.—Add three ounces of alum to No. 1.

POISONED CANDY.—The candy season is upon us. During this week a great deal of sweet stuff will be devoured. At this time it is perhaps more opportune than it would be at any other season to mention the discoveries that New York scientists have made in regard to colored candy. The New York makers in coloring their attractive wares use dangerous adulterations. A physician of that city had two children brought to him for treatment for ulceration of the mouth. An investigation revealed the fact that the disease in each case was traceable to the use of colored candy. The doctor made known his discovery to the superintendent of the sanitary bureau, who authorized him to inspect the candy making process in every establishment in the city. A three weeks' campaign in the company of an officer of the sanitary squad resulted in the seizure of two tons of the poisonous stuff, which had been prepared in anticipation of a brisk holiday demand. The poisonous coloring matters chiefly used were chrome green, chrome yellow, red lead, burnt umber, Prussian blue, rose aniline, which contains arsenic, and vermillion, which contains bisulphate of mercury. Whether the profitable, but unholy scheme of adulteration has reached this city we do not know. But in buying colored candy parents may well be careful. They should know what they are buying or else confine themselves to sweet goods that are not quite so attractive in appearance but less dangerous in composition.

ADULTERATION OF DRUGS IN LONDON.—The London medical journals are again bewailing the widespread adulteration of drugs. They say that this evil has grown to such enormous proportions as to paralyze in many cases the best skill of learned physicians, and almost to destroy the value of modern progress in the healing art. The physician prescribes remedies according to their potency as fixed in the Pharmacopœia, but between him and the patient there are the manufacturers and dealers in drugs, and their dishonesty often prevents or even reverses the expected result.

SWILL MILK STABLES.—A commission of professional inspectors was appointed to investigate the condition of the notorious swill milk stables around the cities of New York, Brooklyn and Jersey City, which have been held up to be the great hot-bed and seed-store of contagion. The commission reports that out of 3,318 cows in New York there were found twenty-six animals infected with pleuro-pneumonia; in Long Island, of 10,072 cows, there were 325 cases (this locality has always been the central fire of this eruption); on Staten Island, of 3,857 cows, there were twelve cases; in Jersey City, of 180 cows in thirteen stables, there were eighteen cases.

—Quite recently a hydrated calcium sulphate in a state of fine powder has been offered to millers in Europe for mixing with flour in the proportions of 1 to 1.5 per cent. and there is reason to believe that not a few unprincipled persons have actually placed on the market flour adulterated with calcium sulphate. Balland says if the weight of the ash of a flour is more than 0.6 per cent. the analyst should determine lime and sulphuric acid. Genuine flour has a very little lime and a mere trace of sulphuric acid.

—We are told that in one township in McLean county \$50,000 worth of hogs died this season of hog cholera, which, without doubt, were rendered and sold in the eastern market for pure leaf lard.

—It is rumored that New York has shipped a good deal of condemned candy to the interior counties of this state.

APPENDIX.

I.

Some thirty years ago the London *Lancet*, the leading medical and surgical journal of the world, owing to the repeated exposures of Dr. Postgate, determined to employ at its own expense one of the best analytical chemists of the age to investigate the subject. For that purpose Dr. Hassall, a man of national reputation and fellow of a dozen learned societies, was selected. He devoted several years to the work and collated his researches in a large sized volume. His book constituted the basis of subsequent parliamentary investigation, which gives it quasi-official character. From it will be found below copious extracts bearing upon a few of the most glaring abuses:

During the course of the last six years the author has examined minutely and scrupulously, microscopically and chemically over 3,000 samples of the principal articles of consumption, as well as many drugs: and as the one great result of this somewhat extended experience, he affirms that some short time back there were few articles of consumption the adulteration of which was practicable, and which, at the same time, could be rendered profitable, which were not extensively subjected to adulteration.

Dr. Normandy, one of the highest authorities of the age, concludes his evidence before the parliamentary committee with this remark:

"Adulteration is a widespread evil which has invaded every branch of commerce: everything which can be mixed or adulterated or debased in any way is debased."

The subjoined table contains not only the names of the substances used in adulteration possessing more or less injurious properties, but also the names of the articles in which they have been discovered. It will be perceived that the number of injurious substances thus employed is very great.

Injurious substances actually detected in adulterated articles of consumption.

SUBSTANCES.	ARTICLES.
Coccus indicus.	Beer, rum.
Arsenic of copper, emerald green, or Scheele's green.	Colored sugar confectionery.
Sulphate of copper or blue vitrol, and acetate of copper or verdigris.	Pickles, bottled fruits, and vegetables, preserves, dried and crystallized fruits.
Carbonate of copper or verditer.	Colored sugar, confectionery and tea.
The three chromates of lead.	Custard powders, sugar, confectionery, tea, and snuff.
Red oxide of lead.	Cayenne, curry-powder.
Red ferruginous earths, as Venetian red, bole Armenian, red and yellow ochers, umber, etc.	Red sauces, as shrimp, lobster, anchovy, and tomato sauces, and in potted meats and fish, cocoa, chicory, anchovies, annatto, cheese, tea and snuff, etc.

Carbonate of lead.	Sugar, confectionery.
Plumbago or black lead.	In certain black and other teas.
Bisulphuret of mercury or cinnabar.	Cayenne, sugar, confectionery.
Sulphate of iron.	Redried tea, and in beer.
Sulphate of copper.	Bread, rarely ; annatto.
Cayenne.	Gin, rum, ginger, and mustard.
Gamboge.	Sugar confectionery.
Chromates of potash.	Tea and snuff.
The three false Brunswick greens, being mixtures of the chromates of lead and indigo, or Prussian blue.	Sugar confectionery.
Oxychlorides of copper or true Brunswick greens.	Sugar confectionery.
Orpiment or sulphuret of arsenic.	Sugar confectionery.
Ferrocyanide of iron or Prussian blue.	Sugar confectionery.
Antwerp blue or Prussian blue and chalk.	Sugar confectionery.
Indigo.	Sugar confectionery.
Ultramarine.	Sugar confectionery.
Artificial ultramarine.	Sugar confectionery.
Hydrated sulphate of lime, mineral white, or plaster of Paris.	Flour, bread, sugar confectionery.
Alum.	Bread and flour.
Sulphuric acid.	Vinegar, gin.
Bronze powders or alloys of copper and zinc.	Sugar confectionery.

These disclosures, be it recollected, were made nearly thirty years ago, and when food-poisoning was but yet in its infancy. It was long anterior to the day when tallow and suet supplanted legitimate and normal butter by most abnormal and disgusting process; or glucose, cane-sugar, or scores of other improvements had been made upon the recognized time-honored processes of our fathers. In this, as in other things, the world has moved since then.

II.

Dr. Hassall concludes his general introduction on the subject of food adulteration in the following pertinent and impressive words :

Legislation on the subject is required—

First. For the protection of the public health. The evidence given before the parliamentary committee on adulteration proves that the deadliest poisons are daily resorted to for purposes of adulteration, to the injury of the health and the destruction of the lives of thousands. There is scarcely a poisonous pigment known to these islands which are not thus employed.

Second. For the protection of the revenue. This will be readily acknowledged when it is known that nearly half the national revenue is derived from taxes on food and beverages. It has already been shown that not long since adulteration was rife, and it still exists to a large extent in nearly all articles of consumption, both solid and fluid, and including even those under the supervision of the excise.

Third. In the interests of the honest merchant and trader. The upright trader is placed in a most trying and unfair position in consequence of adulteration. He is exposed to the most ruinous and unscrupulous competition; too often he is undersold, and his business thus taken from him. It is therefore to the interest of the honest trader that effective legislation should take place, and not only is it to his interest but we can state that it is his most anxious desire that adulteration should be abolished. In advocating the suppression of adulteration we are therefore advocating the rights and interests of all honorable traders.

Fourth. For the sake of the consumer. That the consumer is extensively robbed through adulteration, sometimes of his health, but always of his money, is unquestionable. It is, however, the poor man, the laborer and the artisan, who is the most extensively defrauded; for

occupied early and late with his daily labor, often in debt with those with whom he deals, he has no time or power to help himself in the matter, and if he had the time he still would require the requisite knowledge. The subject of adulteration, therefore, while it concerns all classes, is eminently a poor man's question : the extent to which he is cheated through adulteration is really enormous.

Fifth. On the ground of public morality. Adulteration involves deception, dishonesty, fraud, and robbery, and since adulteration is so prevalent, so equally must these vices prevail to the serious detriment of public morality and to the injury of the character of the whole nation for probity in the eyes of the world. We repeat, then, that some prompt, active, and efficient legislative interference is demanded for the sake of public morality and the character of this country among the nations of the world.

HASSALL'S ADULTERATION OF FOOD.

From an examination of this table it appears :

1. That of the thirty-four coffees, thirty-one were adulterated.
2. That chicory was present in thirty-one of the samples.
3. Roasted corn in twelve.
4. Beans and potato flour, each in one sample.
5. That in sixteen cases the adulteration consisted of chicory only.
6. That in the remaining fifteen samples the adulteration consisted of chicory and either roasted corn, beans, or potatoes.
7. That in many instances the quantity of coffee present was very small ; while in others it formed not more than one-fifth, fourth, third, half, and so on of the whole article.

We are satisfied that the gross aggregate of the adulterations detected did not amount to less than one-third of the entire bulk of the quantity purchased.

Speaking of the articles used in the adulteration of tea the author says :

"The principal of these substances are Dutch pink, rose pink, logwood, tumeric carbonate of lime, carbonate of magnesia, steatite, soap-stone or silicate of magnesia, chromate of lead, the chromates of potash, ferrocyanide of iron, indigo, carbonate of copper, acetate of copper, arsenic of copper."

Thus it has been shown that exhausted tea-leaves are sometimes made up with gum, etc., and resold to the public as genuine black tea, and, when artificially colored and glazed, even as green tea.

That the substances employed in the coloring are in many cases very much more objectionable and injurious than those used by the Chinese, being sometimes highly poisonous.

Out of seventy-two samples of brown sugar, as procured at different shops, subjected to examination, fragments of sugar-cane were present in all but one. These were usually so small that they were visible only by the aid of the microscope.

Sporules and filaments of fungus were present in nearly all the sugars. The acari were present in sixty-nine of the samples, and in many in very considerable quantities.

Grape sugar was detected in all the sugars.

Four of the sugars contained proportions of starch so considerable as to lead to the inference that they were adulterated.

Eleven other samples of brown sugar, as imported from the East and West Indies, furnished nearly similar results. Two only could be regarded as pure and fit for human consumption.

CONCERNING BREAD.—We have already referred, to some extent, to the adulteration of bread with water. Bread naturally contains a large

quantity of water, estimated at sixty-six parts in every one hundred and fifty of bread, sixteen of these only being natural to the flour, but it is frequently made to contain greater amounts. One principal means by which this is effected is by the addition of rice or rice flour to bread; this, swelling up, absorbs much more water than wheat flour. Potatoes used in any quantity probably have, to some extent, the same effect. In the introduction of rice, then, into bread there is a double evil; first, a substance is put into the bread which does not possess nearly so much nourishment as wheat flour; and, second, by its means a larger quantity of another substance is absorbed by the bread, and which has no nourishing properties whatever. While wheat flour seldom contains less and often much more than 12 per cent. of gluten, rice has only about 7 per cent. of that nutritious substance, and potatoes are equally deficient in gluten.

The public, then, in judging of the quality of bread by its color, by its whiteness, commits a most serious mistake; there is little or no connection between color and quality; in fact, very generally, the whitest breads are the most adulterated. The public, therefore, should lose no time in correcting its judgment on this point.

Again, the mistaken taste of the public for very white bread, which, be it known, can not be obtained even from the finest and best flour except by the use of alum or some other substance similar in its operation, tends to the serious injury of the bread in another way.

After proving that alum enters injuriously in almost all bought bread, he adds:

Further, alum is very apt to disorder the stomach and to occasion acidity and dyspepsia.

VINEGAR.—The principal adulterations of vinegar are with water, sulphuric acid, and burnt sugar, and sometimes with acid substances, as chillies and grains of paradise, and also with pyroligneous or acetic acids.

The water is added to increase the bulk, sulphuric acid and acid substances to make it pungent, and burnt sugar to restore the color lost by dilution.

Vinegar is not unfrequently contaminated with arsenic, this being introduced through the sulphuric acid used in its adulteration.

A mixture of muriatic acid and soda has been used in bread, and I have seen muriatic acid containing a very fearful quantity of arsenic.

The following evidence in regard to the use of corrosive sublimate was given by Mr. Gray before the parliamentary committee:

"Corrosive sublimate has been used for years and years in some houses, and not a cask has gone out without a certain proportion of corrosive sublimate."

"CHAIRMAN. Do you believe that corrosive sublimate was mixed with the vinegar in injurious proportions?"

"I do; it was done to give strength to the vinegar. When the D. W. and O. V. have been used the corrosive sublimate is put into it to give it a tartness again in the mouth."

CHAIRMAN. "Are these technical expressions in the trade—O. V. for oil of vitriol, and D. W. for distilled water?"

"Just so. Corrosive sublimate is called 'the doctor.'"

White or distilled vinegar, as it is called, is usually made with water and acetic acid, what is sold is rarely distilled at all.

That nineteen out of twenty of the vinegars submitted to analysis, poor as they were, yet owed a portion of their acidity to sulphuric acid the amount of which varied in the different samples from 38 to 252 in the 1,000 grains, the largest quantity of this acid being detected in the

vinegars in which the red cabbages were pickled. That in the whole of the sixteen different pickles analyzed for copper that poisonous metal was discovered in various amounts.

ON THE ADULTERATIONS OF CAYENNE.—Of twenty-eight samples of cayenne submitted to microscopical and chemical examination no less than twenty-four were adulterated, and four only were genuine. Twenty-two contained mineral coloring matter.

In thirteen cases this consisted of red lead, which was present in very considerable quantities, while in the remaining seven samples it was some red ferruginous earth, Venetian red, or red ocher. Vermilion or sulphuret of mercury was present in one of this cayennes.

Six of the cayennes consisted of a mixture of ground rice, turmeric, and cayenne colored, with either red lead, vermillion, red, or ocher.

Six of the cayennes contained large quantities of salt, sometimes alone, but mostly combined with rice and the red earths or red lead.

One of the samples was adulterated with a large quantity of the husk of white mustard seed.

Lastly. Two were adulterated with rice, and were colored in addition, the one with red lead, and the other with a red ferruginous earth. The object of the use of red lead and other red coloring matters is two fold: first, to conceal other adulterations, and second, to preserve the color of the cayenne, as when exposed to the light for any time it usually loses part of the bright red color which it at first possesses, and therefore it becomes deteriorated in the eyes of the purchaser. The red lead, etc., added, does not, of course, preserve the color of the cayenne, but simply supplies the place of that which it loses in consequence of exposure.

Salt is employed for the same purpose. This substance has a remarkable effect in bringing out the color of the cayenne. It is, however, also used to increase its weight.

The adulteration of cayenne with such substances as red lead and mercury is doubtless highly prejudicial to health. It has been stated that colic and paralysis have both been produced by the use of cayenne containing red lead.

The salts of lead and mercury are characterized by the circumstance that they are apt to accumulate in the system, and finally to produce symptoms of a very serious nature. Thus no matter how small the quantity of mercury or lead introduced each day, the system is sure in the end, although it is slowly and insidiously, to be brought under the influence of these poisons, and to become seriously affected. The quantity of red lead introduced into the system in adulterated cayenne is, however, by no means inconsiderable.

III.

[From *Chambers's Encyclopaedia.*]

ADULTERATION.

The adulteration of food of almost every kind is unfortunately so common a custom that our limited space will merely allow of our noticing a few of the leading points in regard to it.

Wheat flour is not infrequently adulterated with one or more of the following substances: Flour of beans, Indian corn, rye, or rice, potato starch, alum, chalk, carbonate of magnesia, bone-dust, plaster-of-paris, sand, clay, etc. The organic matters—the inferior flours of starch—do little or no serious harm. Most of the inorganic matters are positively injurious, and of these, alum (one of the commonest adulterations) is the worst. The beneficial action of wheat flour on the system is in part due to the large quantity of soluble phosphates which it contains. When alum is added these phosphates uniting with the alumina of the

alum and forming an insoluble compound, the beneficial effect of the soluble phosphates is thus lost.

Coffee, in its powdered form, is not merely largely adulterated with chicory, but additionally with roasted grain, roots, acorns, saw-dust, exhausted tan (termed croats), cofina (the seeds of a Turkish plant), burnt sugar, and (worst of all) baked horses' and bullocks' liver. In the *Quarterly Journal of the Chemical Society* for April, 1856, there is an excellent report by Messrs. Graham, Stenhouse and Campbell on the mode of detecting vegetable substances mixed with coffee. Even whole roasted coffee is not safe from adulteration, a patent having been actually taken out to mold chicory into the form of coffee-berries.

Cocca and chocolate are adulterated with flour, potato-starch, sugar, clarified mutton-suet, and various mineral substances, such as chalk, plaster-of-paris, red earth, red ocher, and venetian earth, the last three being used as coloring matter.

Vinegar is adulterated with water, sulphuric acid, and sometimes with chillies, grains of paradise, and pyroligneous acid. It appears from evidence taken before the parliamentary committee on adulterations that arsenic and corrosive sublimate are no uncommon ingredients in vinegar. In connection with vinegar we may place pickles. Dr. Hassall analyzed sixteen different pickles for copper, and discovered that poisonous metal, more or less, abundantly in all of them; "in three, in a very considerable quantity; in one, in highly deleterious amount; and in two, in poisonous amount."

Preserved fruits and vegetables, especially gooseberries, rhubarb, green gages, and olives, are often also contaminated largely with copper. In these cases the copper, if in considerable quantity, may be easily detected by placing a piece of polished iron or steel in the suspected liquid for twenty-four hours, to which we previously add a few drops of nitric acid. The copper will be detected on the iron. Or ammonia may be added to the fluid in which the pickles or fruit were lying, when, if copper is present, a blue tint is developed. We should be suspicious of all pickles, olives, preserved gooseberries, etc., with a particularly bright-green tint.

Milk is usually believed to be liable to numerous adulterations, such as flour, chalk, mashed brains, etc. It appears, however, from Dr. Hassall's researches on London milk, that as a general rule, water is the only adulteration. The results of the examinations of twenty-six samples were that twelve were genuine, and that fourteen were adulterated, the adulteration consisting principally in the addition of water, the percentage of which varied from 10 to 50 per cent. or one-half water. If space permitted we might extend the list of alimentary substances liable to adulteration to a much greater length.

Beer is adulterated in many ways. Burned sugar (caramel) is added to give color; coccus indicus, to supply an intoxicating agent which will give an appearance of strength to the beer; quassia, to impart bitterness in place of hops; grains of paradise and cayenne pepper, to communicate pungency; coriander and caraway seeds, to yield flavor; licorice, treacle and honey, to supply color and consistence. To stale beer there is sometimes added green vitriol (sulphate of iron) or alum and common salt, which when agitated with the beer communicate a fine cauliflower head.

IV.

[Report of Select Parliamentary Committee, 1855-56, upon inquiry into the adulteration of food, from the *Westminster Review*, volume 91, page 195.]

In the process of their investigations they examined some sixty witness who gave answers to near eight thousand questions, all of them tending more or less distinctly and directly to prove that the practice

of adulteration was very prevalent and most injurious in its effects upon the health, morality and prosperity of the country. Upward of thirty of the witnesses were physicians, surgeons, analytical chemists, and druggists, and the remainder were gentlemen who occupied responsible positions in the fiscal and sanitary departments of government, of persons acquainted with the manufacture and sale of the larger proportion of such commodities as are in most general use.

* * * * *

Though the witnesses differed both as to the extent to which adulteration is carried on and as to its nature and effects, your committee cannot avoid the conclusion that adulteration widely prevails, though under circumstances of very various character. As regards foreign products, some arrive in this country in an adulterated condition, while others are adulterated by the English dealer. Other commodities again, the produce of this country, are shown to be in an adulterated state when passing into the hands of the dealer, while others undergo adulteration by the dealers themselves.

"Not only is the public health thus exposed to danger and pecuniary fraud committed on the whole community, but the public morality is tainted and the high commercial character of this country seriously lowered both at home and in the eyes of foreign countries. Though very many refuse under every temptation to falsify the quality of their wares, there are unfortunately large numbers who, though reluctantly practicing deception, yield to the pernicious contagion of example or to the hard pressure of competition forced upon them by their less scrupulous neighbors."

And then they proceed to give the following summary:

"Without entering into the voluminous details of the evidence taken, your committee would enumerate the many articles which have been proved to be more or less adulterated. These are: Arrowroot, adulterated with potato and other starches; bread, with potatoes, plaster of Paris, alum and sulphate of copper; bottled fruits and vegetables, with certain salts of copper; coffee, with chicory, roasted wheat, beans and mangel-wurzel; chicory, with roasted wheat, carrots, sawdust and Venetian red; cocoa, with arrowroot, potato-flour, sugar, chicory, and some ferruginous red earth; cayenne, with ground rice, mustard, husk, &c.; alcohol, with red lead; lard, with potato-flour, mutton suet, carbonate of soda and caustic lime; mustard, with wheat flour and tumeric; marmalade, with apples and turnips; porter and stout (though sent out in a pure state from the brewers), with water, sugar, treacle, salt, alum, coccus indicus, grains of paradise, nux vomica, and sulphuric acid; pickles and preserves, with salts of copper; snuff, with various chromatics, red lead, lime, and powdered glass; tobacco, with water, sugar, rhubarb, and treacle; vinegar, with water, sugar, and sulphuric acid; jalap, with powdered wood; opium, with poppy capsules, wheat-flour, powdered wood, and sand; scammony, with wheat-flour, chalk, resin, and sand; confectionery, with plaster-of-paris and other similar ingredients, colored with various pigments of a highly poisonous nature; and acid drops purporting to be compounded of jargonelle, pear, ribston, pippin, lemon, etc., with essential oils containing prussic acid and other dangerous ingredients."

Under date of December 3d, 1884, Hon. Henry Bergh, President of the American Society for the Prevention of Cruelty to Animals, says: "I sincerely and heartily approved the formation of the Society for the Prevention of Adulteration of Food, &c.

ENDORSEMENT OF LEGAL PROFESSION.

We, the undersigned members of the bar of Lycoming county, Pennsylvania, do hereby take pleasure in stating that H. Wharton Amerling is a most worthy and respected member of our bar, in good standing. And whereas he proposes the organization of a society in Philadelphia, Pa., for the prevention of adulteration of food, drugs, medicines, liquors, &c.

Therefore we most heartily endorse the above object as just and essential, and recommend any and all such efforts and legislation as will most expeditiously and effectively suppress and prevent adulteration in any form.

R. Hawley,	James M. Wood,
Henry W. Watson,	J. L. Meredith,
Gen. Agt. Fire Ass'n. of Phila.,	C. Bartles, Jr.,
James B. Coryell,	J. A. Beeber,
H. C. Parsons,	F. P. Cummings,
Ex-Mayor, Pres. W. B. National Bank,	John J. Reardon,
C. A. Bowers,	J. C. Hill,
R. P. Allen, Ex-Senator,	J. F. Strieby,
Charles K. Geddes,	F. H. McCormick,
V. H. Metzger,	James M. Gamble,
Samuel Linn, ex-Judge,	J. B. Krouse,
B. S. Bentley,	A. W. King,
S. M. Smith, City Recorder,	C. J. Reilly,
Seth T. McCormick,	H. C. McCormick,
John J. Metzger,	W. W. Hart, Sen'r,
T. F. Gahan,	H. B. Amerling.

ENDORSEMENT OF CLERGY.

Whereas H. Wharton Amerling, a worthy member of the bar of Lycoming county, Pa., desires the formation of a society in Philadelphia for the prevention of adulteration of foods, drugs, medicines, liquors, &c.

Therefore we, the undersigned ministers of the city of Williamsport, Pa., do most heartily endorse the object as just, and necessary, and humane. Further, we recommend any and all fair and proper efforts of the society and measures of legislation as will suppress and prevent a crime so gross and an evil so injurious as adulteration.

Rev. J. H. Hopkins, D. D., LL. D., Protestant Episcopal,	Rev. George Cooper, Baptist,
Rev. George C. Foley, Protestant Episcopal,	Rev. W. H. Rickert, Lutheran,
Rev. S. E. Webster, Presbyterian,	Rev. David Winters, Presbyterian,
Rev. James C. Clarke, Methodist Episcopal,	Rev. Father John Kooper, Roman Catholic,
Rev. S. C. Swallow, Methodist Episcopal,	Rev. S. P. Hughes, Lutheran,
Rev. H. R. Bender, Methodist Episcopal.	

ENDORSEMENT OF MEDICAL PROFESSION.

Whereas the practice of adulterating food, drugs, medicines, liquors, &c., largely prevails; and whereas it is the desire and purpose of H. Wharton Amerling, a worthy member of the Lycoming county bar, to form a society for the prevention of adulteration of food, drugs, medicines, liquors, &c.

We, therefore, the undersigned members of the medical profession

of the city of Williamsport, Pa., do most heartily endorse the organization of such society as very essential, and we recommend such vigorous and effective measures and acts of legislation as will speedily suppress and prevent any manner of adulteration.

William H. H. Miller, M. D.,	Thomas Lyon, M. D.,
William Willits, M. D.,	Thomas H. Helsby, M. D.,
E. B. Campbell, M. D.,	W. F. Logan, M. D.,
B. H. & T. C. Detwiler, M. D.,	D. C. Flanagan, M. D.,
J. L. A. Burrell, M. D.,	George Weisel, M. D., Pres. City Council,
W. R. Hull, M. D.,	W. C. Doane, M. D.,
J. Stickel, M. D.,	S. Pollock, M. D.,
S. S. Koser, M. D.,	G. A. Hill, M. D.,
Howard Cheyney, M. D.,	William Goehrig, M. D.
A. Richter, M. D.,	

ENDORSEMENT OF HONORABLE AND PROMINENT CITIZENS AND OFFICIALS.

Whereas, by reason of the laxity of legislation and failure of its enforcement, the adulteration of food, drugs, medicines, liquors, &c., is rapidly and injuriously increasing; and whereas, it is the purpose of H. Wharton Amerling, a worthy and respected citizen, to effect the organization of a society in Philadelphia, Pa., for the prevention of adulteration of food, drugs, medicines, liquors, &c.

Therefore, we heartily approve of such organization as most essential, and recommend the most vigorous and effective measures for the accomplishment of the object of such society.

COUNTY OFFICERS.

George W. Gilmore, Recorder, &c.,	Daniel Steck, Prothonotary,
V. H. Metzger, Prosecuting Attorney,	H. W. Whitehead, Treasurer,
W. E. Sprague, Sheriff,	Simon Yeager, Dep'ty Sheriff,
D. C. Flanagan, Coroner,	J. S. Williamson, Commis'r,
Frank Fullmer, Commissioner,	Joseph M. Lowe.

CITY OFFICERS.

S. M. Crans, Mayor,	James M. Wood, City Attorney,
Charles Nash, Comptroller,	D. Longsdorf, Treasurer,
Samuel McKean, Chief of Police,	Charles Stewart, City Surveyor,
A. Richter, President Board of Health.	

BANK OFFICIALS.

George L. Sanderson, President Williamsport National Bank,	
Henry C. Parsons, President West Branch National Bank,	
J. A. Beeber, President First National Bank.	

THE PRESS.

J. W. Sweely, <i>Sun and Banner</i> ,	C. H. Stoever, <i>Sun and Banner</i> ,
C. E. Fritcher, <i>Gazette and Bulletin</i> ,	Geo. W. Rianhard, <i>Sunday Grit</i> .

PROFESSORS.

Dickinson Seminary.

Edward J. Gray, President,	Edwin M. Pickop,
Frank M. Larned,	C. A. Roe,
George B. Danel,	J. W. Freley.

Commercial College.

F. E. Wood, President,	S. T. Stephenson,
J. W. Moyer,	

Numerous endorsements from abroad could have been added, but we omit them for the present.



